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ABSTRACT

The School District of the City of Saginaw, Michigan operates a compensatory education delivery system in reading and mathematics consisting of two programs, elementary and secondary Academic Achievement (A2). The program was designed to provide direct instruction to some 2,613 students in grades one through nine. The goal of A2 was to improve the pupils' reading and/or mathematics achievement. Instruction occurred primarily in small group settings outside the regular classroom for the elementary level, and in a regular classroom setting with a reduced number of students for the secondary level. The 1987-88 compensatory education delivery system showed a decrease from the previous year in terms of the percentage of grade levels meeting the standard in both reading and mathematics. Overall, A2 results remain adequate, especially at the elementary level. The results of the pre- to post-testing of compensatory education students indicated that the greatest gains in reading were made at the first grade level, but all grades attained the performance standard except grades 7, 8, and 9. Mathematics gains were again the greatest at grade 1, but that all grades met the standard except grades 7, 8, and 9. The findings of a process evaluation report were combined with the data included in this report to develop recommendations for improving program implementation for 1988-89. Extensive statistical data are included in six tables and two appendices. (Author/FMW)

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ED298221

EVALUATION REPORT

COMPENSATORY EDUCATION PRODUCT EVALUATION:

ELEMENTARY AND SECONDARY ACADEMIC ACHIEVEMENT (A^2)

1987-1988

DEPARTMENT OF EVALUATION SERVICES

- PROVIDING ASSESSMENT, PROGRAM EVALUATION AND RESEARCH SERVICES -

Saginaw Public Schools

Saginaw, Michigan

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UD026355

COMPENSATORY EDUCATION PRODUCT EVALUATION:

ELEMENTARY AND SECONDARY ACADEMIC ACHIEVEMENT (A^2)

1987-1988

An Approved Report of the

DIVISION OF ADMINISTRATION AND PERSONNEL

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July, 1988

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PROGRAM DESCRIPTION

The School District of the City of Saginaw operates a compensatory education delivery system in reading and mathematics consisting of two programs--elementary and secondary Academic Achievement (A^2). The elementary A^2 is a pull-out program periodically taking students out of regular classrooms which involved approximately 2,235 students in grades one through six. The secondary A^2 is a self-contained classroom program which involved approximately 385 students in grades seven through nine. The A^2 programs are funded by both the Federal Education Consolidation and Improvement Act (ECIA) Chapter 1 and Article 3 of the State School Aid Act.

Summarized in the chart below are demographic characteristics that describe both the elementary and secondary levels of A^2 and in greater detail.

DEMOGRAPHIC CHARACTERISTICS OF THE ACADEMIC ACHIEVEMENT PROGRAMS

Program	Grade Levels Served	Approximate Number of Stds Served**	Number of Full-Time Equivalent Teachers	Number of Full-Time Equivalent Aides	Number of School Sites	Program Setting*	Instructional Services
Academic Achievement, Elementary	1-6	2,235	36.0	4.0	23	Pull-out	- Reading - Mathematics
Academic Achievement, Secondary	7-9	385	8.4	0.0	3	Self-Contained Classroom	- Reading - Mathematics

*Students in intact classrooms receive 75% or more of their compensatory education instruction within the confines of the classroom, while students in the pull-out program receive 75% or more of their compensatory instruction outside the confines of their regular classroom.

**Student counts as of March 11, 1988. Detailed counts by fund source, subject, building and grade can be found in Appendix A.

As can be seen from the chart above, the primary purpose of the programs is to improve the reading and mathematics achievement of a designated number of educationally disadvantaged children. The children in the program are screened for entry with the California Achievement Tests--Form E (CAT). Students were determined eligible for the A^2 programs if they scored at or below the 40%ile on the reading and/or mathematics total of the CAT. This year approximately 2,620 pupils are participating in the compensatory education programs.

The broad goals of these programs are to: 1) provide intensive academic instruction to the educationally disadvantaged, 2) involve parents in the program, 3) supply students with incentives for academic improvement, 4) operate staff inservice programs, 5) measure academic growth, and 6) prepare students to effectively meet the academic competition of the general classroom. These goals are the focus of the Compensatory Education Department's activities throughout the 1987-88 school year.

PROCEDURES FOR EVALUATION

Both process and product evaluations were undertaken for the compensatory education delivery system. This year's process evaluation was accomplished by distributing and analyzing a set of questionnaires concerning essential program components which were shared with all compensatory education teachers and each principal at the compensatory education buildings. The instruments were distributed to the respondents on January 5, 1988. Completed instruments were last received from respondents on January 29, 1988. The results of this process questionnaire were presented in a separate report published and disseminated earlier in the year.

The product evaluation, which is the focus of this report, addresses the results of student test performance. The California Achievement Tests (CAT) Form E normed Spring, 1985 for grades 1-9 served as the evaluation instruments. These tests were administered on a pre-test basis in the Spring, 1987 and on a post-test basis in Spring, 1988.

Mean pre- to post-test score comparisons were used to evaluate the effectiveness of the delivery system. The agreed upon standard was an improvement of post-test over pre-test percentile scores. The reading and then the mathematics results for the entire compensatory education's delivery system will be presented.

PRESENTATION AND ANALYSIS OF DATA: PRODUCT

The primary goal of compensatory education was to increase reading and mathematics achievement. The data presented in this section will indicate the extent to which this goal was achieved. Reading and then mathematics data by grade are presented below. The achievement results by school are presented in Appendix B.

Product Data: Reading

The pre- and post-test results for reading are presented in Table 1.

TABLE 1. ATTAINMENT OF THE PERFORMANCE STANDARD IN READING IN PERCENTILE SCORES FOR COMPENSATORY EDUCATION PARTICIPANTS, GRADES 1-9.

Spring to Spring Comparisons by Grade	Number of Stds Pre- to Post-Tested	Percentile			Performance Standard* Attained
		Pre Mean	Post Mean	Mean Gain	
1	36	6	41	35	Yes
2	374	16	20	4	Yes
3	404	20	25	5	Yes
4	332	21	27	6	Yes
5	313	21	24	3	Yes
6	328	21	24	3	Yes
7	94	14	10	- 4	No
8	64	10	10	0	No
9	58	9	8	- 1	No

*Post-test percentile scores will evidence improvement over pre-test percentile scores.

A study of the reading results show that students met the performance standard at all grades except 7, 8, and 9. At the seventh, eighth, and ninth grade levels, the scores indicated an average loss/no change of -4, 0, and -1 percentile points

respectively between pre- and post-testings. At grade one, the largest gain (35 percentile points) was recorded. See Appendix B for the test results by building and funding source.

Product Data: Mathematics

Table 2 below presents the attainment of the performance standard for spring to spring data in mathematics.

TABLE 2. ATTAINMENT OF THE PERFORMANCE STANDARD IN MATHEMATICS IN PERCENTILE SCORES FOR COMPENSATORY EDUCATION PARTICIPANTS, GRADES 1-9.

Spring to Spring Comparisons by Grade	Number of Stds Pre- to Post-Tested	Percentile			Performance Standard* Attained
		Pre Mean	Post Mean	Mean Gain	
1	24	15	55	40	Yes
2	193	17	30	13	Yes
3	256	20	30	10	Yes
4	237	19	28	9	Yes
5	214	21	36	15	Yes
6	201	22	40	18	Yes
7	81	26	18	- 8	No
8	47	11	10	- 1	No
9	43	12	10	- 2	No

*Post-test percentile scores will evidence improvement over pre-test percentile scores.

A review of mathematics results reveals that students met the performance standard in all grades except 7, 8, and 9. At the seventh, eighth, and ninth grade levels, the scores indicated an average loss of -8, -1, and -2 percentile points respectively between pre- and post-testings. The gain score at the first grade level, indicated the largest improvement (40 percentile points) between pre- and post-testings. At the fourth grade, the smallest

percentile gain (9 points) was observed. See Appendix B for the test results by building and funding source.

SUMMARY AND CONCLUSIONS

The Chapter 1 and Article 3 Academic Achievement (A^2) program was designed to provide direct instructional services in reading and mathematics to some 2,613 students in grades one through nine. The main intent of the A^2 program was to improve the pupil's reading and/or mathematics achievement. Instruction occurred primarily in small group settings outside of the regular classroom for A^2 at the elementary level, and in a regular classroom setting with a reduced number of students for A^2 at the secondary level.

The 1987-88 compensatory education delivery system showed a decrease from the previous year in terms of the percentage of grade levels meeting the standard in both reading and mathematics (89% vs. 66.7% in reading and 100% vs. 66.7% in mathematics for 1986-87 and 1987-88 respectively). Overall, A^2 results remain adequate especially at the elementary level.

The results of the pre- to post-testing of compensatory education students indicate that overall the greatest gains in reading were made at the first grade level, but that all grades attained the performance standard except grades 7, 8, and 9. Mathematics gains were again the greatest at grade 1, but that all grades met the standard except grades 7, 8, and 9.

As mentioned earlier, a process evaluation report was completed this year and is available from the Department of Evaluation, Testing and Research. The findings from that report as well as those cited above were used in helping develop the recommendations that follow.

RECOMMENDATIONS

Based on this year's process and product evaluations and a meeting with the program director, the following recommendations are offered in an effort to improve the implementation of the A^2 program for 1988-89.

1. Identify and/or develop a selection instrument for students without standardized test results. A pilot testing of the new selection instrument should be undertaken to determine its technical adequacy.

2. Institute a periodic testing of identified objectives for all grade levels. These objectives would provide a basis for all compensatory teachers to chart the progress of each student and ultimately determine instructional effectiveness.

3. Continue work with the elementary inservice committee to design an appropriate set of inservice offerings for the compensatory education staff. Institute a secondary inservice program as soon as possible to help bring about a more effective junior high program.

4. Explore other alternatives to lower the student to staff ratios. Present funding levels make it impossible to lower the ratio further without outside help from other sources.

5. Continue to define at the secondary level a standard set of reading and math materials. After the set of core materials has been identified, purchase adequate amounts for each secondary compensatory education building.

6. Record building level instructional activities that happen monthly. These activities then should be communicated through a calendar of events from each teacher to the director.

7. Identify procedures that make compensatory education scheduling easier and share these procedures during pre-service sessions at the start of the school year.

8. Reduce variations in the program between building sites by having the director and compensatory education staff analyze the building results presented in Appendix B. Hopefully, a plan can be formulated to reduce (or control) these variations in program impact.

APPENDICES

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: Article 3, Reading

Building	K	1	2	3	4	5	6	Total
E. Baillie	0	5	28	25	22	28	27	135
Coulter	0	1	22	27	15	15	16	96
Emerson	0	7	14	33	22	22	24	122
Fuerbringer	0	0	5	5	6	5	5	26
N. Haley	0	6	24	24	12	14	17	97
Handley	0	0	0	0	0	0	0	0
Heavenrich	0	2	32	28	12	29	18	121
Herig	0	0	0	0	7	8	0	15
Houghton	0	3	23	19	16	18	14	93
Jerome	0	0	18	14	21	14	18	85
Jones	0	2	25	30	23	21	23	124
Kempton	0	0	8	3	3	7	0	21
Longfellow	0	2	32	38	38	23	22	155
Longstreet	0	4	17	23	17	13	13	87
J. Loomis	0	1	27	42	29	18	31	148
M. Park	0	1	20	6	8	6	5	46
C. Miller	0	1	6	6	3	4	5	25
J. Moore	0	2	6	7	10	9	7	41
Morley	0	0	23	17	9	14	17	80
J. Rouse	0	7	27	25	20	14	24	117
Salina	0	0	19	13	12	11	12	67
Stone	0	0	19	17	21	18	13	88
Webber Elem.	0	5	38	37	36	33	35	184
Zilwaukee	0	0	0	6	0	5	0	11
TOTAL	0	49	433	445	362	344	351	1,984

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: Article 3, Mathematics

Building	K	1	2	3	4	5	6	Total
E. Baillie	0	5	21	15	16	17	15	89
Coulter	0	1	8	17	15	7	11	59
Emerson	0	7	9	28	22	21	21	108
Fuerbringer	0	0	0	0	1	0	0	1
N. Haley	0	2	5	13	11	10	9	50
Handley	0	0	0	0	0	0	0	0
Heavenrich	0	2	17	18	12	22	13	84
Herig	0	0	5	5	2	8	4	24
Houghton	0	1	18	22	12	3	5	61
Jerome	0	0	0	13	17	9	10	49
Jones	0	1	14	13	18	13	12	71
Kempton	0	0	0	0	0	0	0	0
Longfellow	0	1	12	32	14	19	15	93
Longstreet	0	4	13	17	9	5	6	54
J. Loomis	0	1	30	33	23	5	23	115
M. Park	0	0	0	1	0	6	5	12
C. Miller	0	0	0	0	1	0	0	1
J. Moore	0	1	4	4	12	7	1	29
Morley	0	0	18	5	4	7	9	43
J. Rouse	0	6	15	16	20	12	12	81
Salina	0	0	7	7	9	9	4	36
Stone	0	0	8	8	13	19	11	59
Webber Elem.	0	3	22	15	25	34	23	122
Zilwaukee	0	0	2	0	0	4	0	6
TOTAL	0	35	226	284	255	234	213	1,247

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: Article 3, Total Participants

Building	K	1	2	3	4	5	6	Total
E. Baillie	0	5	32	26	25	30	28	146
Coulter	0	1	23	32	19	15	18	108
Emerson	0	7	16	34	28	24	27	136
Fuerbringer	0	0	5	5	6	5	5	26
N. Haley	0	6	25	29	15	17	17	109
Handley	0	0	0	0	0	0	0	0
Heavenrich	0	2	32	32	17	31	21	135
Herig	0	0	5	5	7	8	4	29
Houghton	0	3	24	25	17	18	15	102
Jerome	0	0	18	18	24	16	21	97
Jones	0	2	25	32	25	23	23	130
Kempton	0	0	8	3	3	7	0	21
Longfellow	0	2	34	47	41	26	25	175
Longstreet	0	4	18	26	17	13	14	92
J. Loomis	0	1	40	45	36	19	37	178
M. Park	0	1	20	7	8	10	8	54
C. Miller	0	1	6	6	3	4	5	25
J. Moore	0	2	7	8	16	11	7	51
Morley	0	0	26	17	10	16	19	88
J. Rouse	0	7	28	28	31	16	27	137
Salina	0	0	19	14	13	14	12	72
Stone	0	0	23	19	23	23	17	105
Webber Elem.	0	5	42	41	40	40	40	208
Zilwaukee	0	0	0	6	0	0	5	11
TOTAL	0	49	476	505	424	386	395	2,235

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: Chapter 1, Reading

Building	K	1	2	3	4	5	6	Total
E. Baillie	0	5	28	25	22	28	27	135
Coulter	0	1	22	27	15	15	16	96
Emerson	0	7	14	33	22	22	24	122
Fuerbringer	0	0	0	0	0	0	0	0
N. Haley	0	6	24	24	12	14	17	97
Handley	0	0	0	0	0	0	0	0
Heavenrich	0	2	32	28	12	29	18	121
Herig	0	0	0	0	0	0	0	0
Houghton	0	3	23	19	16	18	14	93
Jerome	0	0	0	0	0	0	0	0
Jones	0	2	25	30	23	21	23	124
Kempton	0	0	0	0	0	0	0	0
Longfellow	0	2	32	38	38	23	22	155
Longstreet	0	4	17	23	17	13	13	87
J. Loomis	0	1	27	42	29	18	31	148
M. Park	0	0	0	0	0	0	0	0
C. Miller	0	0	0	0	0	0	0	0
J. Moore	0	0	0	0	0	0	0	0
Morley	0	0	23	17	9	14	17	80
J. Rouse	0	7	27	25	20	14	24	117
Salina	0	0	19	13	12	11	12	67
Stone	0	0	0	0	0	0	0	0
Webber Elem.	0	5	38	37	36	33	35	184
Zilwaukee	0	0	0	0	0	0	0	0
TOTAL	0	45	351	381	283	268	298	1,626

*Count as of March 11, 1988 tracking.

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APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: Chapter 1, Mathematics

Building	K	1	2	3	4	5	6	Total
E. Baillie	0	5	21	15	16	17	15	89
Coulter	0	1	8	17	15	7	11	59
Emerson	0	7	9	28	22	21	21	108
Fuerbringer	0	0	0	0	0	0	0	0
N. Haley	0	2	5	13	11	10	9	50
Handley	0	0	0	0	0	0	0	0
Heavenrich	0	2	17	18	12	22	13	84
Herig	0	0	0	0	0	0	0	0
Houghton	0	1	18	22	12	3	5	61
Jerome	0	0	0	0	0	0	0	0
Jones	0	1	14	13	18	13	12	71
Kempton	0	0	0	0	0	0	0	0
Longfellow	0	1	12	32	14	19	15	93
Longstreet	0	4	13	17	9	5	6	54
J. Loomis	0	1	30	33	23	5	23	115
M. Park	0	0	0	0	0	0	0	0
C. Miller	0	0	0	0	0	0	0	0
J. Moore	0	0	0	0	0	0	0	0
Morley	0	0	18	5	4	7	9	43
J. Rouse	0	6	15	16	20	12	12	81
Salina	0	0	7	7	9	9	4	36
Stone	0	0	0	0	0	0	0	0
Webber Elem.	0	3	22	15	25	34	23	122
Zilwaukee	0	0	0	0	0	0	0	0
TOTAL	0	34	207	253	209	181	182	1,066

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: **Chapter 1, Total Participants**

Building	K	1	2	3	4	5	6	Total
E. Baillie	0	5	32	26	25	30	28	146
Coulter	0	1	23	32	19	15	18	108
Emerson	0	7	16	34	28	24	27	136
Fuerbringer	0	0	0	0	0	0	0	0
N. Haley	0	6	25	29	15	17	17	109
Handley	0	0	0	0	0	0	0	0
Heavenrich	0	2	32	32	17	31	21	135
Herig	0	0	0	0	0	0	0	0
Houghton	0	3	24	25	17	18	15	102
Jerome	0	0	0	0	0	0	0	0
Jones	0	2	25	32	25	23	23	130
Kempton	0	0	0	0	0	0	0	0
Longfellow	0	2	34	47	41	26	25	175
Longstreet	0	4	18	26	17	13	14	92
J. Loomis	0	1	40	45	36	19	37	178
M. Park	0	0	0	0	0	0	0	0
C. Miller	0	0	0	0	0	0	0	0
J. Moore	0	0	0	0	0	0	0	0
Morley	0	0	26	17	10	16	19	88
J. Rouse	0	7	28	28	31	16	27	137
Salina	0	0	19	14	13	14	12	72
Stone	0	0	0	0	0	0	0	0
Webber Elem.	0	5	42	41	40	40	40	208
Zilwaukee	0	0	0	0	0	0	0	0
TOTAL	0	45	384	428	334	302	323	1,816

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: Chapter 1, Mathematics

Building	7	8	9	Total
Central Junior	40	23	10	73
Arthur Eddy	27	17	28	72
North Intermediate	0	0	0	0
South Intermediate	0	0	0	0
Webber Junior	34	21	18	73
TOTAL	101	61	56	218

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: Chapter 1, Reading

Building	7	8	9	Total
Central Junior	57	26	14	97
Arthur Eddy	31	24	28	83
North Intermediate	0	0	0	0
South Intermediate	0	0	0	0
Webber Junior	22	56	27	105
TOTAL	110	106	69	285

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: **Article 3, Total Participants**

Building	7	8	9	Total
Central Junior	65	40	24	129
Arthur Eddy	45	29	43	117
North Intermediate	0	0	0	0
South Intermediate	0	0	0	0
Webber Junior	40	65	34	139
TOTAL	150	134	101	385

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: **Article 3, Total Participants**

Building	7	8	9	Total
Central Junior	57	26	14	97
Arthur Eddy	31	24	28	83
North Intermediate	0	0	0	0
South Intermediate	0	0	0	0
Webber Junior	22	56	27	105
TOTAL	110	106	69	285

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: **Article 3, Mathematics**

Building	7	8	9	Total
Central Junior	40	23	10	73
Arthur Eddy	27	17	28	72
North Intermediate	0	0	0	0
South Intermediate	0	0	0	0
Webber Junior	34	21	18	73
TOTAL	101	61	56	218

*Count as of March 11, 1988 tracking.

APPENDIX A

COUNT OF PROGRAM PARTICIPANTS*

PROGRAM: **Chapter 1, Total Participants**

Building	7	8	9	Total
Central Junior	65	40	24	129
Arthur Eddy	45	29	43	117
North Intermediate	0	0	0	0
South Intermediate	0	0	0	0
Webber Junior	40	65	34	139
TOTAL	150	134	101	385

*Count as of March 11, 1988 tracking.

TABLE B.1. MEAN PERCENTILE GAIN BY BUILDING AND GRADE FOR ALL 1-6 CHAPTER 1 PUPILS IN READING BASED ON APRIL-MAY, 1987 PRE-TESTING AND APRIL-MAY, 1988 POST-TESTING ON CAT (SPRING TO SPRING).

SCHOOL	GRADE 1				GRADE 2				GRADE 3				GRADE 4				GRADE 5				GRADE 6			
	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss
Baillie	4	2	52	50	26	18	17	- 1	21	18	22	4	19	21	25	4	23	20	20	0	25	21	21	0
Coulter	1	1	32	31	22	18	24	6	25	18	29	11	14	22	25	3	13	21	17	- 4	14	22	25	3
Emerson	5	8	22	14	11	17	15	- 2	30	14	17	3	21	15	18	3	19	22	24	2	23	15	25	10
Haley	6	11	46	35	22	21	27	6	20	28	33	5	11	22	27	5	14	25	17	- 7	16	24	18	- 6
Heavenrich	--	--	--	--	28	14	21	7	25	16	22	6	11	22	12	-10	27	17	21	4	18	18	16	- 2
Houghton	3	3	30	27	18	14	21	7	15	17	27	10	16	16	22	6	15	27	37	10	14	21	25	4
Jones	1	3	72	69	6	17	9	-12	29	20	16	- 4	21	16	20	4	19	21	24	3	21	24	25	1
Longfellow	2	7	50	43	31	22	39	17	36	21	35	14	36	25	56	31	23	17	24	7	22	22	25	3
Longstreet	1	3	5	2	16	11	22	11	21	18	24	6	14	18	21	3	11	21	29	8	12	24	20	- 4
Loomis	1	4	30	26	24	14	12	- 2	40	22	24	2	28	22	24	2	17	22	29	7	29	22	21	- 1
Morley	--	--	--	--	21	13	20	7	16	24	34	10	8	35	32	- 3	13	21	25	4	13	18	29	11
Rouse	5	5	29	24	23	20	16	- 4	24	22	35	13	18	25	25	0	14	15	24	9	21	22	30	8
Salina	--	--	--	--	17	13	14	1	13	21	10	-11	12	16	34	18	9	25	29	4	12	21	35	14
Webber Ele.	4	21	67	46	34	14	25	11	34	20	24	4	34	22	20	- 2	30	25	24	- 1	33	24	21	- 3
SYSTEM	33	7	41	34	299	16	18	2	349	20	24	4	263	21	26	5	247	21	24	3	273	21	23	2

TABLE B.2. MEAN PERCENTILE GAIN BY BUILDING AND GRADE FOR ALL 1-6 CHAPTER 1 PUPILS IN MATHEMATICS BASED ON APRIL-MAY, 1987 PRE-TESTING AND APRIL-MAY, 1988 POST-TESTING ON CAT (SPRING TO SPRING).

SCHOOL	GRADE 1				GRADE 2				GRADE 3				GRADE 4				GRADE 5				GRADE 6			
	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss
Baillie	4	18	57	39	21	22	43	21	12	27	20	- 7	14	22	44	22	14	29	39	10	15	25	51	26
Coulter	1	15	43	28	8	16	25	9	17	22	29	7	14	25	30	5	6	20	35	15	10	30	56	26
Emerson	5	11	24	13	7	25	18	- 7	27	12	16	4	20	16	14	- 2	18	22	32	10	20	17	48	31
Haley	2	39	56	17	3	29	43	14	9	30	41	11	10	30	30	0	10	32	32	0	8	30	35	5
Heavenrich	--	--	--	--	15	14	37	23	17	11	29	18	11	5	10	5	21	13	22	9	13	22	32	10
Houghton	1	27	68	41	13	22	35	13	18	20	34	14	12	15	37	22	2	25	34	9	5	29	41	12
Jones	1	13	68	55	4	67	41	-26	12	30	30	0	16	22	29	7	11	24	37	13	12	20	24	4
Longfellow	1	7	52	45	12	27	41	14	30	24	37	13	13	21	54	33	19	22	61	39	15	20	48	28
Longstreet	1	6	18	12	12	18	24	6	15	20	44	24	8	15	44	29	4	29	50	21	5	27	58	31
Loomis	1	30	59	29	28	10	21	11	31	17	25	8	23	20	30	10	5	16	32	16	22	27	30	3
Morley	—	--	—	--	17	14	21	7	5	24	48	24	4	29	32	3	7	14	25	11	8	20	54	34
Rouse	4	10	59	49	12	35	22	-13	15	18	50	32	18	22	25	3	12	14	34	20	10	32	34	2
Salina	--	--	--	--	6	16	14	- 2	7	18	15	- 3	9	29	41	12	8	25	58	33	4	59	59	0
Webber Ele.	2	24	70	46	20	22	56	34	12	21	50	29	23	21	18	- 3	30	27	30	3	21	22	30	8
SYSTEM	23	14	53	39	118	19	31	12	227	19	30	11	195	20	27	7	167	22	34	12	168	24	40	16

TABLE B.3. MEAN PERCENTILE GAIN BY BUILDING FOR ALL 7-9 CHAPTER 1 PUPILS IN READING AND MATHEMATICS BASED ON APRIL-MAY, 1987 PRE-TESTING AND APRIL-MAY, 1988 POST-TESTING ON CAT (SPRING TO SPRING).

SCHOOL	Grade 7				Grade 8				Grade 9			
		Percentiles				Percentiles				Percentiles		
	Number Tested	Pre Mean	Post Mean	Mean Gain	Number Tested	Pre Mean	Post Mean	Mean Gain	Number Tested	Pre Mean	Post Mean	Mean Gain
READING												
Eddy	24	16	12	- 4	19	9	8	-1	26	10	12	2
Central	52	12	8	- 4	21	12	13	1	7	6	8	2
Webber	18	18	16	- 2	24	11	10	-1	25	8	5	-3
System	94	14	10	- 4	64	10	10	0	58	9	8	-1
MATHEMATICS												
Eddy	17	29	21	- 8	12	13	6	-7	22	20	17	-3
Central	34	22	16	- 6	17	13	15	2	7	8	9	1
Webber	30	29	18	-11	18	9	10	1	14	8	5	-4
System	81	26	18	- 8	47	11	10	-1	43	12	10	-2

TABLE B.4. MEAN PERCENTILE GAIN BY BUILDING AND GRADE FOR ALL 1-6 CHAPTER 1/ARTICLE 3 PUPILS IN READING BASED ON APRIL-MAY, 1987 PRE-TESTING AND APRIL-MAY, 1988 POST-TESTING ON CAT (SPRING TO SPRING).

SCHOOL	GRADE 1				GRADE 2				GRADE 3				GRADE 4				GRADE 5				GRADE 6			
	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss
Baillie	4	2	52	50	26	18	17	- 1	21	18	22	4	19	21	25	4	23	20	20	0	25	21	21	0
Coulter	1	1	32	31	22	18	24	6	25	18	29	11	14	22	25	3	13	21	17	- 4	14	22	25	3
Emerson	5	8	22	14	11	17	15	- 2	30	14	17	3	21	15	18	3	19	22	24	2	23	15	25	10
Fuerbringer	--	--	--	--	5	24	33	9	4	20	22	2	6	21	29	8	5	29	29	0	4	21	20	- 1
Haley	6	11	46	35	22	21	27	6	20	28	33	5	11	22	27	5	14	25	17	- 8	16	24	18	- 6
Heavenrich	--	--	--	--	28	14	21	7	25	16	22	6	11	22	12	-10	27	17	21	4	18	18	16	- 2
Herig	--	--	--	--	--	--	--	--	--	--	--	--	6	24	25	1	7	15	21	6	--	--	--	—
Houghton	3	3	30	27	18	14	21	7	15	17	27	10	16	16	22	6	15	27	37	10	14	21	25	4
Jerome	--	--	--	--	17	14	34	20	13	21	16	- 5	19	18	35	17	13	27	25	- 2	17	25	30	5
Jones	1	3	72	69	6	17	9	- 8	29	20	16	- 4	21	16	20	4	19	21	24	3	21	24	25	1
Kempton	--	--	--	--	8	21	17	- 4	2	27	50	23	3	35	12	-23	7	25	32	7	--	--	--	—
Longfellow	2	7	50	43	31	22	39	17	36	21	35	14	36	25	56	31	23	17	24	7	22	22	25	3
Longstreet	1	3	5	2	16	11	22	11	21	18	24	6	14	18	21	3	11	21	29	8	12	24	20	- 4
Loomis	1	4	30	26	24	14	12	- 2	40	22	24	2	28	22	24	2	17	22	29	7	29	22	21	- 1
Merrill Park	1	1	35	34	18	8	22	14	6	17	25	8	8	21	50	29	5	16	48	32	5	17	30	13
Miller	1	2	32	30	5	14	29	15	6	18	20	2	2	35	37	2	4	37	17	-20	5	20	21	1
Moore	1	9	56	47	4	21	13	- 8	2	29	14	-15	8	22	18	- 4	8	24	22	- 2	7	24	29	5
Morley	--	--	--	--	21	13	20	7	16	24	34	10	8	35	32	- 3	13	21	25	4	13	18	29	11
Rouse	5	5	29	24	23	20	16	- 4	24	22	35	13	18	25	25	0	14	15	24	9	21	22	30	8
Salina	--	--	--	--	17	13	14	1	13	21	10	-11	12	16	34	18	9	25	29	4	12	21	35	14
Stone	--	--	--	--	18	22	17	- 5	16	16	18	2	17	20	22	2	17	22	25	3	12	20	29	9
Webber Ele.	4	21	67	46	34	14	25	11	34	20	24	4	34	22	20	- 2	30	25	24	- 1	33	24	21	- 3
Zilwaukee	--	--	--	--	--	--	--	--	6	21	22	1	--	--	--	--	--	--	--	--	5	25	29	4
SYSTEM	36	6	41	35	374	16	20	4	404	20	25	5	332	21	27	6	313	21	24	3	328	21	24	3

TABLE B.5. MEAN PERCENTILE GAIN BY BUILDING AND GRADE FOR ALL 1-6 CHAPTER 1/ARTICLE 3 PUPILS IN MATHEMATICS BASED ON APRIL-MAY, 1987 PRE-TESTING AND APRIL-MAY, 1988 POST-TESTING ON CAT (SPRING TO SPRING).

SCHOOL	GRADE 1				GRADE 2				GRADE 3				GRADE 4				GRADE 5				GRADE 6			
	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss	Number Tested	Pre Mean	Post Mean	Mean Gain/ Loss
Baillie	4	18	57	39	21	22	43	21	12	27	20	- 7	14	22	44	22	14	29	39	10	15	25	51	26
Coulter	1	15	43	28	8	16	25	9	17	22	29	7	14	25	30	5	6	20	35	15	10	30	56	26
Emerson	5	11	24	13	7	25	18	- 7	27	12	16	4	20	16	14	- 2	18	22	32	10	20	17	48	31
Fuerbringer	--	--	--	--	--	--	--	--	--	--	--	--	1	24	54	30	--	--	--	--	--	--	--	--
Haley	2	39	56	17	3	29	43	14	9	30	41	11	10	30	30	0	10	32	32	0	8	30	35	5
Heavenrich	--	--	--	--	15	14	37	23	17	11	29	18	11	15	10	- 5	21	13	22	9	13	22	32	10
Herig	--	--	--	--	5	73	73	0	5	32	52	20	2	27	56	29	7	16	50	34	4	27	59	32
Houghton	1	27	68	41	13	22	35	13	18	20	34	14	12	15	37	22	2	25	34	9	5	29	41	12
Jerome	--	--	--	--	--	--	--	--	12	30	29	- 1	15	25	65	40	8	21	35	14	9	20	37	17
Jones	1	13	68	55	4	67	41	-26	12	30	30	0	16	22	29	7	11	24	37	1	12	20	24	4
Kempton	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Longfellow	1	7	52	45	12	27	41	23	30	24	37	13	13	21	54	33	19	22	61	39	15	20	48	28
Longstreet	1	6	18	12	12	18	24	6	15	20	44	24	8	15	44	29	4	29	50	21	5	27	58	31
Loomis	1	30	59	29	28	10	21	11	31	17	25	8	23	20	30	10	5	16	32	16	22	27	30	3
Merrill Park	--	--	--	--	--	--	--	--	1	39	90	51	--	--	--	--	6	14	58	44	5	24	59	35
Miller	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	99	50	-49	--	--	--	--
Moore	1	30	92	62	3	8	4	- 4	2	25	18	- 7	11	20	35	15	7	12	17	5	1	14	59	45
Morley	--	--	--	--	17	14	21	7	5	24	48	24	4	29	32	3	7	14	25	11	8	20	54	34
Rouse	4	10	59	49	12	35	22	-13	15	18	50	32	18	22	25	3	12	14	34	20	10	32	34	2
Salina	--	--	--	--	6	16	14	- 2	7	18	15	- 3	9	29	41	12	8	25	58	33	4	59	59	0
Stone	--	--	--	--	7	16	14	- 2	7	22	18	- 4	13	20	20	0	18	27	44	17	10	16	41	25
Webber Ele.	2	24	70	46	20	22	56	34	12	21	50	29	23	21	18	- 3	30	27	30	3	21	22	30	8
Zilwaukee	--	--	--	--	--	--	--	--	2	14	22	8	--	--	--	--	--	--	--	--	4	22	32	10
SYSTEM	24	15	55	40	193	17	30	13	256	20	30	10	237	19	28	9	214	21	36	15	201	22	40	18

TABLE B.6. MEAN PERCENTILE GAIN BY BUILDING FOR ALL 7-9 CHAPTER 1/ARTICLE 3 PUPILS IN READING AND MATHEMATICS BASED ON APRIL-MAY, 1987 PRE-TESTING AND APRIL-MAY, 1988 POST-TESTING ON CAT (SPRING TO SPRING).

SCHOOL	Grade 7				Grade 8				Grade 9			
		Percentiles				Percentiles				Percentiles		
	Number Tested	Pre Mean	Post Mean	Mean Gain	Number Tested	Pre Mean	Post Mean	Mean Gain	Number Tested	Pre Mean	Post Mean	Mean Gain
READING												
Eddy	24	16	12	- 4	19	9	8	-1	26	10	12	2
Central	52	12	8	- 4	21	12	13	1	7	6	8	2
Webber	18	18	16	- 2	24	11	10	-1	25	8	5	-3
System	94	14	10	- 4	64	10	10	0	58	9	8	-1
MATHEMATICS												
Eddy	17	29	21	- 8	12	13	6	-7	22	20	17	-3
Central	34	22	16	- 6	17	13	15	2	7	8	9	1
Webber	30	29	18	-11	18	9	10	1	14	8	5	-4
System	81	26	18	- 8	47	11	10	-1	43	12	10	-2